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parison of this with our present drawing, it must be looked at in a mirror, or must be supposed to be seen through the back of the paper, since it is reversed, or in the same condition with reference to orientation as the original negative looked at from the film side. The title of the above paper is "On the Comparison of Reflector and Portrait Lens Photographs."

That photograph has suffered in the reproduction, and does not show the exterior nebulosities as distinctly as it ought to.

On the photographs of the *Pleiades* made in 1893 December a star near *o Persei* is shown to be densely involved in nebulosity. It is 7′ south of, and 3′ following, *o Persei*, and is identified as DM +31°·643. The position for 1855·0 is

$$\alpha = 3^h\ 35^m\ 27^s{\cdot}6 \quad \delta = +31^\circ\ 42'{\cdot}2.$$

It is given as $8^m{\cdot}2$ in DM.

I have lately examined this star (which is reddish in colour) with the 40-inch, and it is surrounded for some distance with conspicuous nebulosity.

Yerkes Observatory, Williams Bay, Wisconsin :
1899 *November.*

On the Diameter of Ceres and Vesta. By E. E. Barnard.

During the oppositions of 1894 and 1895 a series of measures of the diameters of *Ceres* (1), *Pallas* (2), *Juno* (3), and *Vesta* (4), were made with the 36-inch of the Lick Observatory (*M.N.* vol. lvi. pp. 55–63).

The diameters thus obtained were (reduced to Δ 2·7673) :—

Ceres	0″·389	23 nights
Pallas	0·244	5 ,,
Juno	0·095 ±	4 ,,
Vesta	0·195	18 ,,

I have endeavoured to redetermine these diameters here with the large telescope, but the conditions have not been favourable for the use of sufficiently high power for the purpose. A few nights' measures, however, were obtained of *Ceres* and *Vesta*. These, though not considered so satisfactory as the measures which I secured in 1894 and 1895, verify the diameters then obtained, and show that they can be relied upon as being as accurate as can be secured by the work of one observer.

The following are the only measures it has been possible to secure with the 40-inch.

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Ceres (1).

	Apparent.	Δ 2·7673.
	″	″
1897 Nov. 22	0·64	0·42
„ 23	0·55	0·36
Dec. 26	0·57	0·34
„ 27	0·55	0·33
1898 Jan. 2	0·51	0·31
		0·352

Vesta (4).

	Apparent.	Δ 2·7673.
	″	″
1899 Sept. 26	0·38	0·21
Oct. 7	0·32	0·17
„ 8	0·26	0·14
		0·175

The observations were difficult in each case.

These values when combined with the previous measures will not sensibly change them, and the first series should have the greatest weight. If we make this combination, weighting, by number of observations alone, we should have: Diameter of *Ceres*, 0″·383; diameter of *Vesta*, 0″·192, at distance 2·7673.

Yerkes Observatory, Williams Bay, Wisconsin:
1899 *October* 26.

Observations of the Leonids, 1899. By C. Michie Smith, Director of the Kodaikanal and Madras Observatories.

A careful watch for *Leonids* was carried out from the Kodaikanal Observatory on the morning of November 14 and on the three following nights. The approximate position of the Observatory is Lat. 10° 14′ N., Long. $5^h\ 10^m$ E.; height above sea level 7,700 feet. The following observations were made by the director and the first assistant, Mr. K. V. Sivarama Aiyar. Observations were also made by others of the assistants, but it has not been considered necessary to give these, as they do not cover any extra time. The time used is Madras mean time.

Date.	Count begins.	Count ends.	No. of Leonids seen.	Remarks.
	h m	h m		
Nov. 13	15 52	16 07	2	
	16 10	16 25	nil	
	16 25	17 10	3	1 equal to Venus.

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